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10/524,765	02/16/2005	Gunnar Plesch	13195-00009	8010

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CONNOLLY BOVE LODGE & HUTZ, LLP
P O BOX 2207
WILMINGTON, DE 19899

EXAMINER	
LIU, SUE XU	

ART UNIT	PAPER NUMBER
1639	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,765	PLESCH ET AL.	
	Examiner	Art Unit	
	SUE LIU	1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-8,19-22 and 25* is/are pending in the application.

4a) Of the above claim(s) *19-22 and 25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 4-8* is/are rejected.

7)☐ Claim(s) *1* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Status

1. Claims 3, 9-18, 23, 24 and 26-30 has been canceled as filed on 4/20/09.

Claims 1, 2, 4-8, 19-22 and 25 are currently pending.

Claims 19-22 and 25 have been withdrawn.

Claims 1, 2 and 4-8 are being examined in this application.

Election/Restrictions

2. Applicant's election without traverse of Group 1 (claims 1-8) with SEQ ID NO:1, in the reply filed on 9/12/08 is as previously acknowledged.

3. Claims 9-17 and 19-30 as well as the non-elected SEQ ID NOs are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 9/12/08.

Priority

4. This application is filed under 35 U.S.C 371 of PCT/EP03/08393 (filed on 07/30/2003).

5. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 8/16/2002. It is noted, however, that applicant has not filed a certified copy of the Germany (102 38 434.7) application as required by 35 U.S.C. 119(b).

6. Applicants pointed out that the certified copy of the German priority document was filed in the international stage. However, it appears applicants have not fully complied with PCT Rule 17. See MPEP 1893.03 (C)II:

"The requirement in PCT Rule 17 for a certified copy of the foreign priority application is normally fulfilled by applicant providing a certified copy to the receiving Office or to the International Bureau or by applicant requesting the receiving Office to prepare and transmit the priority document to the International Bureau if the receiving Office issued the priority document. Pursuant to PCT Rule 17.1(a)-(b), applicant must submit the certified copy, or request the receiving Office to prepare and transmit the certified copy, within 16 months from the priority date. Where applicant has complied with PCT Rule 17, the International Bureau will **>forward a copy of the certified priority document to each Designated Office that has requested such document with an indication that the priority document was submitted in compliance with the rule and the date the document was received by the International Bureau. This indication may be in the form of either a cover sheet attached to the copy of the priority document or a WIPO stamp on the face of the certified copy.< The U.S. Patent and Trademark Office, as a Designated Office, will normally request the International Bureau to furnish the copy of the certified priority document upon receipt of applicant's submission under 35 U.S.C. 371 to enter the U.S. national phase. The copy from the International Bureau is placed in the U.S. national stage file. The copy of the **>priority document received from the International Bureau with either of the indications above< is acceptable to establish that applicant has filed a certified copy of the priority document. The examiner should acknowledge in the next Office action that the copy of the certified copy of the foreign priority document has been received in the national stage application from the International Bureau.

**>On the following pages, note the examples of acceptable indications in the form of:

(A) a cover sheet indicating receipt by the International Bureau on 02 February 2006 and compliance with PCT Rule 17 in the "Remark" section; and

(B) <the stamp (box) in the upper right hand section indicating receipt by the International Bureau (WIPO) on 30 December 2002 and the stamped indication "PRIORITY DOCUMENT SUBMITTED OR TRANSMITTED IN COMPLIANCE WITH RULE 17.1(a) OR (b)."

(emphasis added).

Specification

7. Applicant's amendment to the instant specification to add in a section for the description of the drawing" is acknowledged. However, the said amendment appears to have typographic errors. There is no description for Figure 3, but two lines describing Figure 2.

Appropriate correction is required.

8. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. MPEP 608.01.

Claim Objection(s) / Rejection(s) Withdrawn

9. All previous claim Objection(s) / Rejection(s) as set forth in the previous Office action (mailed 11/19/08) that are not repeated and/or maintained in the instant Office action are withdrawn.

Claim Objection(s) / Rejection(s) Maintained

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Written Description Rejection

11. Claims 1, 2 and 4-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The previous rejection is maintained for the reasons of record as set forth in the previous Office action as well as for the reasons below.

The instant claims recite a "A method for *identifying herbicidally active substances* comprising selecting a substance which reduces or blocks the expression or the activity of the gene product of a nucleic acid or a gene..." wherein the nucleic acid or gene comprises "the nucleic acid sequence with the sequence shown in SEQ ID NO:1..."

To satisfy the written description requirement, applicants may convey reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention.

Applicants may show possession of an invention by disclosure of drawings or structural chemical formulas that are sufficiently detailed to show that applicant was in possession of the claimed invention as a whole. See, e.g., Vas-Cath, 935 F.2d at 1565, 19 USPQ2d at 1118.

The written description requirement of 35 U.SC. 112 exists independently of enablement requirement, and the requirement applies whether or not the case involves questions of priority. The requirement applies to all inventions and includes chemical inventions. The fact that the patent is directed to method entailing use of compounds, rather than to compounds per se, does not remove patentee's obligation to provide a description of the compound sufficient to distinguish infringing methods from non-infringing methods. See Univ. of Rochester v. G.D. Searle & Co., 358 F.3d 916, 920-23, 69 USPQ 2d 1886, 1890-93 (Fed. Cir. 2004).

With regard to the description requirement, applicants' attention is invited to consider the decision of the Court of Appeals for the Federal Circuit, which holds that a "written description of an invention involving a chemical genus, like a description of a chemical species, 'requires a precise definition, such as by structure, formula [or] chemical name,' of the claimed subject matter sufficient to distinguish it form other materials." University of California v. Eli Lilly and Co., 43 USPQ2d 1398, 1405 (1997), quoting Fiers v. Revel, 25 USPQ2d 1601, 1606 (Fed. Cir. 1993) (bracketed material in original) [The claims at issue in University of California v. Eli Lilly defined the invention by function of the claimed DNA (encoding insulin)].

The written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species or by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics, i.e., structure or other physical an/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus. See Eli Lilly, 119 F. 3d at 1568, 43 USPQ2d at 1406.

Claim 1 is drawn to a genus of methods using a genus of nucleic acid sequences. The instant claim 1 recites various nucleic acid sequences such as the followings:

A.) "a nucleic acid or gene… wherein the nucleic acid or gene comprises the nucleic acid sequence" of SEQ ID NO:1, which can broadly interpreted to be any nucleic acid or gene comprising SEQ ID NO:1;

B.) "a nucleic acid sequence which can be derived from the amino acid sequences show in SEQ ID NO:2… owing to the degeneracy of the genetic code", which can be any nucleic acid sequence (or fragment thereof) encoding for SEQ ID NO:2;

C.) "a nucleic acid sequence having at least 90% homology with SEQ ID NO:1", which can be any nucleic acid sequence (or fragment thereof) sharing 90% homology with SEQ ID NO:1;

D.) "a nucleic acid sequence which encodes a polypeptide comprising an amino acid sequence having at least 90% homology with the amino acid sequence of SEQ ID NO: 2…" which can be any nucleic acid sequence encoding the said polypeptide;

E.) "a nucleic acid sequence which encodes a fragment or an epitope of a polypeptide which binds specifically to an antibody" which can be any antibody, any epitope,

Or, fragments, derivatives, etc. of the above said nucleic acids or polypeptides.

Neither the instant specification nor the claims have demonstrated common structure and/or function for the claimed genus of nucleic acid sequences/genes (or derivatives or fragments thereof), polypeptides (derivatives or fragments thereof), antibodies, etc. In addition, no representative numbers of species for each claimed genus is provided to show possession of the claimed genus of nucleic acid sequences.

To provide evidence of possession of a claimed genus, the specification must provide sufficient distinguishing identifying characteristics of the genus. The factors to be considered include disclosure of complete or partial structure, physical and/or chemical properties, functional characteristics, structure/function correlation, methods of making the claimed product, or any combination thereof. (see MPEP 2163 II).

In this case, the instant application did not provide support to show possess of the entire claimed genus of nucleic acids with various functions. The instant specification does not provide representative species and/or a core structure of all the 90% homologies, "derivatives" or fragments of a nucleic acid sequences that would lead to the identification of a herbicidal compound. The instant specification also does not provide representative species and/or a core structure for the entire genus of "polypeptides" or derivatives / fragments thereof that can lead to the identification of a herbicidal compound. The instant specification also does not provide representative species and/or a core structure for the entire genus of "antibodies" or antibody epitopes that can lead to the identification of a herbicidal compound. The instant specification does not establish a core structure with the functional language of "identifying herbicidally active substance."

"A definition by function alone "does not suffice" to sufficiently describe a coding sequence "because it is only an indication of what the gene does, rather than what it is." Eli Lilly,

119 F.3 at 1568, 43 USPQ2d at 1406. See also Fiers, 984 F.2d at 1169-71, 25 USPQ2d at 1605-06 (discussing Amgen Inc. v. Chugai Pharmaceutical Co., 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991))."

(MPEP 2163; emphasis added).

In addition, the court has provided the following in regard to possession of DNA:

"An adequate written description of a DNA, such as the cDNA of the recombinant plasmids and microorganisms of the '525 patent, "requires a precise definition, such as by structure, formula, chemical name, or physical properties," not a mere wish or plan for obtaining the claimed chemical invention. Fiers v. Revel , 984 F.2d 1164, 1171, 25 USPQ2d 1601, 1606 (Fed.Cir. 1993). Accordingly, "an adequate written description of a DNA requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it; what is required is a description of the DNA itself." Id. at 1170, 25 USPQ2d at 1606."

"Thus, as we have previously held, a cDNA is not defined or described by the mere name "cDNA," even if accompanied by the name of the protein that it encodes, but requires a kind of specificity usually achieved by means of the recitation of the sequence of nucleotides that make up the cDNA. See Fiers , 984 F.2d at 1171, 25 USPQ2d at 1606." (See *Eli Lilly, 119 F. 3d at 1568, 43 USPQ2d at 1406.)*

The instant claimed invention also does not provide support for the entire genus of antibodies.

"Noelle v. Lederman, 355 F.3d 1343, 1349, 69 USPQ2d 1508, 1514 (Fed. Cir. 2004) (holding there is a lack of written descriptive support for an antibody defined by its binding affinity to an antigen that itself was not adequately described)."

(see MPEP 2163 II).

In this case, the entire genus of "antigens" (e.g. fragments, derivatives of the either the nucleic acid sequence (SEQ ID NO:1) or of the polypeptides) is not adequately described as discussed above.

Therefore, applicants are not in possession of the entire genus of nucleic acid sequences (e.g. derivatives or fragments of SEQ ID NO:1) that can be used to identify herbicides. Applicant's claimed scope represents only an invitation to experiment regarding possible nucleic acid sequences that might be used for the purpose of screening for herbicides.

Discussion and Answer to Argument

12. Applicant's arguments have been fully considered but they are not persuasive for the following reasons (in addition to reasons of record). Each point of applicant's traversal is addressed below (applicant's arguments are in italic):

Applicants assert the possession of the instant claimed method of screening has been demonstrated. (Reply, pp.10+).

However, as discussed previously as well above, the instant claims are broadly drawn to a genus of methods of using various components. To perform the instant claimed methods of screening, the various components (such as the homologous genes/nucleic acids; homolgous polynucleotide; antibodies that bind to the polypeptide; polypeptides that bind to the specific antibodies; translation releasing factor; etc.) are required. Without demonstrating possession of the claimed genuses of components, the instant claimed methods cannot be performed. The above rejection is not based on the possession of the "substance" that is being identified or screened, rather it is based on the issue of the required components for performing the claimed screening assay.

Applicants have pointed to Example 17 of the Written Description Guidelines. However, written description analysis is a fact based inquiry. Each case would a different fact pattern. The said Example 17 of the Guideline presents a different fact pattern from the instant case.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Levin and Others

14. Claims 1,2 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Levin** et al. (US 6,387,637; 5/14/2002; cited in IDS), in view of **Siehl** et al (US 5,780,254; 7/14/1998; cited in IDS) and **Berg** et al (The 1999 Brighton Conference –Weeds; 11/15/1999; page 491-500; cited in IDS). The previous rejection is maintained for the reasons of record as set forth in the previous Office action as well as for the reasons below.

The instant claims recite a "A method for *identifying herbicidally active substances* comprising selecting a substance which reduces or blocks the expression or the activity of the gene product of a nucleic acid or a gene…" wherein the nucleic acid or gene comprises "the nucleic acid sequence with the sequence shown in SEQ ID NO:1… or fragments thereof."

Levin et al, throughout the patent, teach methods of identifying substances that can inhibit activity of various genes (e.g. Abstract; cols. 3-4). The reference also teaches various genes isolated from "*Arabidopsis*" (e.g. col.2). The reference teaches "a screening assay to identify inhibitors that are potential herbicides" (e.g. Abstract) with method step of selecting "an inhibitor" (or compound) of the activities of various nucleic acids (or genes) (e.g. col.7, lines 40+), which reads on the method step of **clm 1**. The reference also teaches the nucleic acids can have sequences or fragments or have a sequence that is at least 90% identity of the instant SEQ ID NO:1 (e.g. col.7, lines 40+), which SEQ ID NO:1 comprises a fragment of the nucleic acid sequence with SEQ ID NO:1 (see attached Sequence Alignment Result # 1 from SCORE; the SEQ ID NO:1 of Levin has 1110 nucleic acid match out of 1230 NA of the instant SEQ ID NO: 1, which is at least 90% homology) of **clm 1**.

The reference teaches comparing the plant growth between plants with normal expression for a gene and plants with overexpression of the same gene (i.e. transgenic plants), and observing the chemical inhibition of plant growth (e.g. col.24+). The reference also teaches selecting compounds inhibiting growth in non-transgenic plant but not in the transgenic plants (overexpressing the gene). Thus, the reason of the chemical inhibition is due to the inhibition of the gene expression or activity in the non-transgenic plant as these inhibitors are the "inhibitors" of the gene products (e.g. cols.24-25). The reference also defines the term "expression" as refers to the transcription and/or translation of an endogenous gene or a transgene in plants (e.g. col.10, lines 37+). Thus, the reference inherently teaches inhibition (blocking or reducing) the transcription/translation of the plant genes as recite in **clm 2**.

The reference also teaches applying the "inhibitors" or compounds to plants to test the herbicidal activity (e.g. col.7; col.24, lines 60+), which reads on the method step of **clm 5**.

The reference also teaches the screening steps on carried out in plants (e.g. col.24, lines 40+), which the plants read on the organisms of **clms 6** and **7**.

The reference teaches using transgenic plants (mutant of wildtype plants) (e.g. col.24+), which reads on the mutant organism of **clm 8**.

The reference also teaches "Novel herbicides can now be discovered using high-throughput screens that implement recombinant DNA technology" (e.g. col.1, lines 39+).

The reference also teaches "Novel herbicides can now be discovered using high-throughput screens that implement recombinant DNA technology" (e.g. col.1, lines 39+).

Levin et al do not explicitly teach the activity of the gene is "reduced or blocked by a low-molecular-weight substance" as recited in **clm 3**. The reference also does not explicitly teach "the identificiation of the substances is carried out in a high-throughput screening" as recited in **clm 4**.

However, **Berg** et al., throughout the publication, teach high throughput screening of herbicides using genetic information (e.g. Abstract). The reference also teaches the needs and advantages using high throughput screening methods to select for a herbicidal substance (e.g. p.491+). The reference teaches diverse products (or compounds) can be generated according various agricultural needs (e.g. p.491). The reference also teaches various chemical libraries such as the ones with up to 1 million compounds can be screening for various gene targets (e.g. p.496).

Siehl et al., throughout the patent, teach identifying compounds that specifically inhibit a plant gene target and thus identifying a herbicide (e.g. Abstract). The reference teaches using library of various compounds such as the ones listed in the Tables (e.g. col.12+), which compounds read on the "low-molecular weight substance" (of **clm 3**) as the term is broadly used in the instant specification.

Therefore, it would have been prima facie obvious for one of ordinary skill in the art at the time the invention was made to screen for a herbicide using low molecular weight compounds in a high throughput screening assay.

A person of ordinary skill in the art would have been motivated at the time of the invention to use a high throughput screening assay for screening for a herbicide, because both Levin and Berg teach high throughput screen for new herbicides is known and routine in the art, and the Berg reference also teaches the advantages and needs for the high throughput screening so that diverse compounds can be efficiently screened. Thus, it would have been obvious to one of ordinary skill in the art to apply the standard technique high throughput screening as taught by both Levin and Berg, to improve the screening assay for the predicable result of enabling standard compound library screening for the identification of a potential herbicide.

A person of ordinary skill in the art would have been motivated at the time of the invention to use compounds of low molecular weight to screen for a herbicide, because Siehl et al teach the needs for using appropriate compounds to inhibit the identified gene target so that inhibition of plant growth can be achieved. Thus, depending on the experimental design, compound libraries of low molecular weight can be used for the screening process. In addition, because the cited references teach methods of screening/identifying inhibitors of genes using

various compound libraries, it would have been obvious to one skilled in the art to substitute one type of compound for the other to achieve the predictable result of screening the desired compound library.

A person of ordinary skill in the art would have reasonable expectation of success of achieving such modifications since all the cited references have demonstrated the success of screening various libraries (or compounds) to identify potential herbicides.

Discussion and Answer to Argument

15. Applicant's arguments have been fully considered but they are not persuasive for the following reasons (in addition to reasons of record). Each point of applicant's traversal is addressed below (applicant's arguments are in italic):

Applicants allege the cited references do not teach all elements of the instant claimed invention. (Reply, p.12).

Applicants are respectfully directed to the above modified rejection for discussion on how the combination of the cited references teaches all elements.

Applicants also argue the Siehl reference teaches away. (Reply, pp.13+).

Applicants based this allegation on the reason that the Siehl reference teaches an inhibitor assay using a different plant protein. However, applicants have not provided any reasoning why the Siehl reference would teaches away from modifying the Levin reference to screen for an inhibitor of a plant enzyme. The Siehl reference is cited to provide the element of "low molecular weight substance", but not for the screening assay itself.

Applicant's argument regarding one of skill in the art would not be motivated for conducting substituting the one type of screening compounds (such as the one taught by Levin) with others (such as the ones taught by Sieh) is also not persuasive. As applicants have pointed out the "present claims related to a method for identifying compounds" (Reply, 10) and the method does not "require the knowledge of the structures and properties of a compound that would result in the desired activity" (Reply, p.10). Neither the instant specification nor the claims specify what class or specific types of compounds are screened. Rather, the instant claimed method is a general screening method that is applicable to any compound that can be screened. Contrary to applicant's assertion, one of ordinary skill in the art would be highly motivated to screen known plant related (or herbicidal) compounds (such as the ones disclosed in Siehl) as they would provide a convenient and known source of potential herbicidal substances.

Double Patenting

16. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

'962

17. Claims 1, 2, 4 and 6-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3 and 5-7 of copending Application No. 10/467,962 (PGPUB 20050246784; hereinafter referred to as the '962 application) in view of **Levin** et al. (US 6,387,637; 5/14/2002; cited in IDS).

The '962 application claims "A method of identifying a herbicidally active substance comprising inhibiting… at least one of…" (Claim 1).

The '962 application also claims reducing or blocking transcription, process, etc. (Claim 2).

The '962 application also claims high throughput screening (e.g. Claim 3), using various organisms (claim 6), and mutants (e.g. claim 7).

The '962 application does not explicitly claim using a nucleic acid with a sequence recited in SEQ ID NO:1.

However, **Levin** et al, throughout the patent, teach methods of identifying substances that can inhibit activity of various genes (e.g. Abstract; cols. 3-4). The reference also teaches various genes isolated from "*Arabidopsis*" (e.g. col.2). The reference teaches "a screening assay to identify inhibitors that are potential herbicides" (e.g. Abstract) with method step of selecting "an inhibitor" (or compound) of the activities of various nucleic acids (or genes) (e.g. col.7, lines 40+), which reads on the method step of **clm 1**. The reference also teaches the nucleic acids can

have sequences or fragments of SEQ ID NO:1 (e.g. col.7, lines 40+), which SEQ ID NO:1 comprises a nucleic acid sequence with a fragment or 90% homology to SEQ ID NO:1".

A person of ordinary skill in the art would have been motivated at the time of the invention to use the nucleic acid of the Levin reference, because it offers the advantages of a desired herbicidal target gene. In addition, because the cited reference application ('962) and the Levin reference teach methods of screening/identifying inhibitors of genes using various target genes, it would have been obvious to one skilled in the art to substitute one gene for the other to achieve the predictable result of screening for a herbicide.

This is a provisional obviousness-type double patenting rejection.

Discussion and Answer to Argument

18. Applicant's arguments have been fully considered but they are not persuasive for the following reasons (in addition to reasons of record). Each point of applicant's traversal is addressed below (applicant's arguments are in italic):

Applicants allege the cited references do not teach all elements of the instant claimed invention. (Reply, p.15).

Applicants are respectfully directed to the above modified rejection for answer to arguments.

New Claim Objection(s) / Rejection(s)

Claim Objections

19. Claim 1 is objected to because of the following informalities: It is suggested that a comma "," be placed after the phrase "the expression of a nucleic acid or gene" in step a) i) of claim 1 to clarify the instant claim language. In addition, the term "a" in front of the phrase "nucleic acid" and "gene" in the phrase "or the activity of the gene product of a nucleic acid or a gene" be replaced with "the said".

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sue Liu whose telephone number is 571-272-5539. The examiner can normally be reached on M-F 9am-3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low can be reached at 571-272-0951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/SUE LIU/
Primary Examiner, Art Unit 1639
6/29/09